WHAT IS CLAIMED IS:

1. A serial communication device bridging between a parallel bus and a serial bus, comprising:

5   (a) a check bit producer which applies an error correcting code to parallel data transmitted through said parallel bus; and

(b) a parallel-serial converter which converts said parallel data output from said check bit producer, into serial data.

10   2. The serial communication device as set forth in claim 1, further comprising a parallel bus interface circuit which multiplexes said parallel data transmitted through said parallel bus, in predetermined bits, and outputs the thus multiplexed parallel data to said check bit producer, and wherein

said parallel-serial converter converts said parallel data into serial data

15 every said predetermined bits, and

said check bit producer applies said error correcting code to every said predetermined bits of said parallel data.

3. A serial communication device bridging between a parallel bus and a serial

20 bus, comprising:

(a) a serial-parallel converter which converts serial data transmitted through said serial bus, into parallel data; and

(b) an error detector which checks an error correcting code applied to said serial data, and detects an error in said error correcting code.

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4. The serial communication device as set forth in claim 3, wherein said error detector has a function of correcting said error when said error is detected by said error detector.

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5. The serial communication device as set forth in claim 4, wherein said error detector corrects said error when said error is a 1-bit error, and abandons an access when said error is a 2-bit error.

6. A serial communication device bridging between a parallel bus and a serial bus, comprising:

(a) a check bit producer which applies an error correcting code to parallel data transmitted through said parallel bus;

(b) a parallel-serial converter which converts said parallel data output from said check bit producer, into serial data;

(c) a serial-parallel converter which converts serial data transmitted through said serial bus, into parallel data; and

(d) an error detector which checks an error correcting code applied to said serial data, and detects an error in said error correcting code.

7. The serial communication device as set forth in claim 6, further comprising a parallel bus interface circuit which (a) multiplexes said parallel data transmitted through said parallel bus, in predetermined bits, and outputs the thus multiplexed parallel data to said check bit producer, and (b) receives parallel data from said error detector, and outputs the received parallel data to said parallel bus, and wherein

said parallel-serial converter converts said parallel data into serial data every said predetermined bits, and

said check bit producer applies said error correcting code to every said predetermined bits of said parallel data.

8. The serial communication device as set forth in claim 6, wherein said error detector has a function of correcting said error when said error is detected by said error detector.

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9. The serial communication device as set forth in claim 6, wherein said error detector corrects said error when said error is a 1-bit error, and abandons an access when said error is a 2-bit error.

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10. A method of carrying out serial communication between a parallel bus and a serial bus, comprising the steps of:

(a) applying an error correcting code to parallel data transmitted through said parallel bus; and

10   (b) converting said parallel data into serial data.

11. The method as set forth in claim 10, further comprising the step of (c) multiplexing said parallel data transmitted through said parallel bus, in predetermined bits, said step (c) being to be carried out prior to said step (a), and

15   wherein said parallel data is converted into serial data every said predetermined bits in said step (b), and said error correcting code is applied to every said predetermined bits of said parallel data in said step (a).

12. A method of carrying out serial communication between a parallel bus

20   and a serial bus, comprising the steps of:

(a) converting serial data into parallel data;

(b) checking an error correcting code applied to said serial data; and

(c) detecting an error in said error correcting code.

25   13. The method as set forth in claim 12, further comprising the step of (d) correcting said error detected in said step (c).

14. The method as set forth in claim 12, further comprising the steps of:

(d) correcting said error when said error is a 1-bit error; and

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(e) abandoning an access when said error is a 2-bit error.

15. A method of carrying out serial communication between a parallel bus and a serial bus, comprising the steps of:

5   (a) applying an error correcting code to parallel data transmitted through said parallel bus;

(b) converting said parallel data into serial data;

(c) converting serial data transmitted through said serial bus, into parallel data;

10   (d) checks an error correcting code applied to said serial data; and

(e) detecting an error in said error correcting code.

16. The method as set forth in claim 15, further comprising the step of (f) multiplexing said parallel data transmitted through said parallel bus, in

15   predetermined bits, said step (f) being to be carried out prior to said step (a), and wherein said parallel data is converted into serial data every said predetermined bits in said step (b), and said error correcting code is applied to every said predetermined bits of said parallel data in said step (a).

20   17. The method as set forth in claim 15, further comprising the step of (f) correcting said error detected in said step (e).

18. The method as set forth in claim 15, further comprising the steps of:

(f) correcting said error when said error is a 1-bit error; and

25   (g) abandoning an access when said error is a 2-bit error.

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